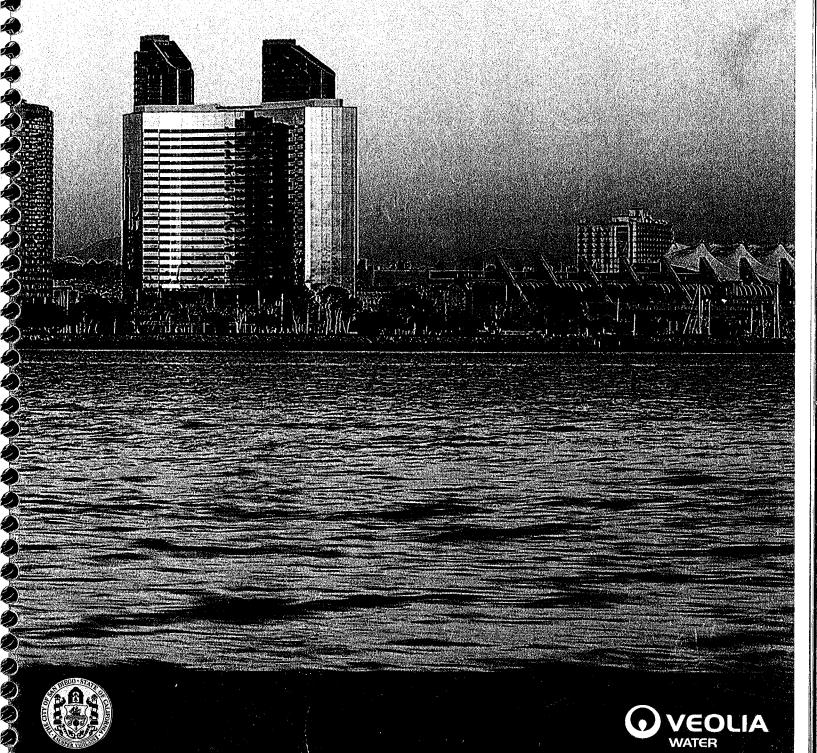
# Crofeses Yhork gession

October 14, 2010





# Meeting Agenda

TO:

Jan Goldsmith, City Attorney

FROM:

Wayne Griffith, John Hawkins

Sean Haghighi, Corey Boock, Justin O'Reilly

DATE:

October 14, 2010

**SUBJECT:** 

Public-Private Partnership Strategy Work Session

### **MEETING OBJECTIVES:**

1. Appreciate the fiscal challenges facing the City of San Diego.

- 2. Explain the approach and value of Veolia's Public-Private Partnership programs for water utilities.
- 3. Establish "Next Steps" to explore how Public-Private Partnership can meet the needs of the City.

### **AGENDA ITEMS:**

- 1. Discuss the current pressing financial and fiscal issues and challenges U.S. Cities in general; and more specifically facing the City of San Diego.
- 2. Present how a Public-Private Partnership offers value and benefits:
  - a. Reduce to cost-of-service through operational efficiencies, capital re-investment programs, and application of global water management intelligence and expertise.
  - b. Address work force transition and challenges working with labor.
  - c. Project delivery flexibility; project approach varying with the level of private sector risk and investment.
- 3. Questions and Answers.
- 4. Define "Next Step" for expanding the Public-Private Partnership discussion with the City of San Diego.

# Sean Haghighi



### **Education:**

BA, Management, Eastern Washington University

# Memberships/ Affiliations:

Water Environment Federation

Pacific Northwest Clean Water Association

Association of Washington Cities

Greater Spokane Incorporated

Spokane Valley Chamber of Commerce

# **Background:**

Mr. Haghighi is Vice President of Development with the Municipal Business Development Group of Veolia Water North America Operating Services, LLC (Veolia Water). In this' role, he manages a team that is involved with new business development and client support for operations, maintenance and management (O&M), design/build/operate (DBO) and related projects in the Western U.S., as well as major projects in other part of the U.S. and in Canada.

Mr. Haghighi joined the firm in 2002 as Vice President of Municipal Business Development with Veolia Water North America - West, LLC, and has over 20 years of professional experience, including the past more than 18 years working in the water/wastewater and environmental industries.

Mr. Haghighi has extensive experience with the implementation and management of long-term client partnerships. His background includes involvement with contractors, environmental consulting engineers and owners in both the municipal and industrial sectors.

# **Key Experience:**

- 1/2010-Date: Vice President Development –
   Municipal Business Development Group –
   Veolia Water North America Operating Services, LLC
  - Manages a group that is responsible for new business development and client relations with existing customers. Service area includes O&M, DBO and related project work in the Western U.S. and Pacific regions.
  - Serves as the primary point of contact during the development process, leading project teams throughout the procurement phase and negotiations. During project implementation, provides ongoing management support to the project team and acts as the client's liaison and advocate to ensure commitment and quality. Subsequent to award of a contract, serve as the Client Officer, charged with ensuring that the client's expectations are met on an ongoing basis.
- 2002–2009: Vice President of Municipal Business Development Veolia Water North America – West, LLC
  - Involved in municipal design, build and operate projects. Works with municipal clients on the development and definition of O&M, design/build, DBO and related service projects.
  - Served as the company's primary point of contact, leading project teams throughout the procurement phase and negotiations. During project implementation, provided ongoing management support to the project team and acted as the client's liaison and advocate to ensure commitment and quality. Subsequent to award of a contract, took on the role of Client Officer, charged with ensuring that Veolia Water met the client's expectations on an ongoing basis.

- Key project involvement to date has included:
  - 2003 Project Developer/Client Services Manager for a \$14.8M contract to design-build a new 3.6-MGD regional wastewater treatment facility while operating the City of Cle Elum, Washington's existing 1.5-MGD wastewater treatment plant. The existing plant consisted of an aerated lagoon treatment system, ultraviolet disinfection and wetlands for solids storage. The new plant features a sequencing batch reactor (SBR) treatment technology as well as ultraviolet disinfection and wetlands solids management.
  - 2004 Project Developer/Client Services Manager for a 10-year, \$25.7 million contract extension to provide O&M services for the City of Great Falls, Montana's 21-MGD wastewater treatment plant, 28 lift stations and sampling and analysis for an industrial pretreatment program (IPP) program.
  - 2005 Project Developer/Client Services Manager for a 10-year, \$4.6 million contract to provide O&M services for the City of Cle Elum, Washington's new 3.6-MGD regional wastewater treatment plant.
  - 2005 Project Developer/Client Services Manager for a 7-year, \$23.5 million contract to provide O&M services for the City of Gresham, Oregon's 20-MGD wastewater treatment plant, including nine lift stations and sampling and analysis of the IPP program.
  - 2006 Project Developer/Client Services Manager for a 10-year, \$6.5 million contract to provide O&M services for Canby Utilities' 6-MGD water treatment system in Oregon, serving a population of 15,000.
  - 2006 Project Developer/Client Services Manager for a 10-year, \$5.6 million contract to provide O&M services for the City of Burley, Idaho's 2.3-MGD industrial and 2-MGD municipal wastewater treatment plants.
  - 2007 Project Developer/Client Services Manager for a 6-year contract to provide O&M services for the 1.65-MGD wastewater facilities owned by the Hayden Area Regional Sewer Board, Hayden, Idaho.
- 2000–2002 Business Development Manager ADS Environmental Services, Seattle, Washington
  - Responsible for implementing long-term sewer hydraulic monitoring services contracts and comprehensive Inflow and infiltration (I&I) studies. Worked on King County's I&I program the largest sanitary sewer study in the world.
  - Responsible for updating municipal clients within the U.S. Environmental Protection Agency (USEPA)'s Regions VIII and X on sanitary sewer regulatory requirements and pending changes while overseeing quality assurance and client satisfaction during the implementation of each service contract.
- 1991–2000 Business Development and Management, Geotechnical Division The Layfield Group
  - Responsible for directing the overall Industrial and Municipal Business Development activities of
    the company throughout the United States for the fabrication and installation of large-scale
    geomembrane containment projects in liquid and waste applications. The success of these highly
    sensitive projects required close coordination and ongoing communications with regulators,
    consultants and clients.
- 1987–1991 District Sales Representative CCS Incorporated
  - Sold commercial and industrial construction products in the Greater Seattle market.

# Wayne W. Griffith



# **Education:**

BS, Environmental Engineering Technology, Temple University, Philadelphia, Pennsylvania

MS (pending), Environmental Engineering, Michigan State University, East Lansing, Michigan (completed course requirements)

# Memberships/ Affiliations:

American Water Works Association: California/Nevada Section and Pacific Northwest Section

Water Environment Federation

California Water Environment Association

# **Background:**

Mr. Griffith is Director of Asset Management with Veolia Water West Operating Services, Inc. (the California-licensed contractor entity of Veolia Water North America — West, LLC) at our regional office in Pleasant Hill, California. He provides leadership in the areas of strategy development, management and implementation for Veolia Water's Underground Asset Management program in the Western U.S.

Mr. Griffith recently re-joined Veolia Water after working with utility management consulting firms establishing strategic plans, developing utility management improvement programs and implementing asset management and organizational improvement projects. His previous assignments with Veolia Water included Vice President of Market Development, Director of the Competitive Advantage Group, as well as a District Manager and Regional Technical Manager extending back to 1993.

Mr. Griffith has been assisting water utility clients meet their business objectives for nearly 25 years. He is proficient in evaluating water and wastewater utility management structures and operations. He is successful at implementing strategies, processes and technologies to improve utility operating performance. He is also experienced in applying best-in-class business concepts to bring about improvements which meet organizational and business goals.

# **Key Experience:**

- 1/2010-Date: Director Asset Management Veolia Water West Operating Services, Inc. – Pleasant Hill, California
  - Provides leadership for asset management programs for underground and above-ground systems and facilities in a service are that includes California and other parts of the Western U.S. These programs are focused on providing an asset protection and planning type of approach for the facilities managed and operated by our firm.
  - Responsible for providing leadership for the establishment of asset management programs at existing O&M project sites, and business development related to new initiatives and clients in the region.
- 2008-2009: Senior Project Manager, Utility Business Consulting -FCS GROUP, San Francisco, California
  - Responsible for developing and leading this firm's utility management consulting practice.
  - Developed projects to assess, plan, and implement programs with water and wastewater utilities to address the strategic, management and operational challenges. Worked with executive level and senior management teams of City, special water districts, and private utility operators.
  - Participated in an alternative service delivery approach and procurement of outsourcing services for the City of Woonsocket, Rhode Island and the Novato Sanitary District, California.

- Developed an approach for Western Municipal Water District to assess a variety of water resource capital projects and their rate and fee impact on wholesale customer, retail customers and development community.
- 2008: Regional Manager/Principal Consultant Municipal Business Group -URS Corporation, Oakland, California
  - Responsible for providing strategic direction, program development and leadership throughout
    California to grow a management consulting services business: incubate a management services
    business model, leveraging existing client relationships to provide a wide range of management
    consulting services ranging from workforce development, strategic planning, information
    technology master planning, and program management for organizational transformations.
- 2005-2008: National Strategic Planning Practice Leader and Principal Consultant -Business Solutions Group - MWH Americas, Walnut Creek, California
  - In the role of National Strategic Planning Practice Leader, was responsible for development and delivery of strategic planning consulting services within the Management Consulting Division of BSG. Acquired and coordinated resources to support strategic planning phases of large capital program management engagements.
  - In the role of Principal Consultant, was responsible for the development and delivery of more than \$2.3 million of strategic business consulting services managed in California as part of a new initiative to expand these services in a new geographical area for Business Solutions Group. Strategic consulting services were provided to city government and special water districts and included organizational assessment, strategic business plans, strategic information technology master plans, workforce planning, document management and asset management program development.
- 2004-2005: Regional Management Consulting Services Practice Manager Principal Consultant EMA SERVICES, INC., Pleasant Hill, California
  - Served as the Western Region Consulting Team Leader for this \$32 million national utility technology and management consulting firm. Responsible for managing organizational effectiveness and O&M/business services for municipal water utilities.
  - Lead the practice team by managing the resources to ensure the appropriate approach, staffing
    and skills were represented in the team so that utilization and region P&L goals were met.
  - Cultivated new client relationships and performed organizational assessments, strategic planning services and work and asset management assignments.
- 2000-2004: Vice President, Program Director for Market Development and Business Development - Veolia Water North America Operating Services (predecessor company – USFilter), Houston, Texas
  - Managed project development as a part of the company's Water & Wastewater Systems Group.
     Focused on strategic development of large municipal water and wastewater membrane filtration
     technology opportunities, working in various sales channels. The role included the responsibility
     for identifying critical needs of the community to ensure the technical offering met the
     requirements of all project drivers along with the ultimate sale of membrane system.
  - Managed Market Development activities for the Operating Services Group. Worked with clients
    and internal business centers to develop and market innovative programs/approaches for publicprivate partnerships. Strategic planning and tactical program implementation covered all aspects
    of municipal infrastructure operations and management including technology, business processes,
    performance metrics, and organizational development to achieve market growth goals.
     Developed 3 year strategic marketing and business program.

- Worked as part of the Competitive Advantage Group, with involvement in the development and application of programs across more than 250 municipal outsourcing projects, improving service to the client and increasing project profitability. New service offerings with business plans developed for an underground infrastructure initiative, asset management initiative, and Department of Defense initiative. Pilot program initiated and implemented with the Council for Investment in the New American City, U.S. Conference of Mayors demonstrating with seven cities (Trenton, New Jersey; Minneapolis, Minnesota; Sioux City, Iowa; Rome, New York; Reno, Nevada; Dearborn, Michigan; and Richmond, California) the value and lasting benefits of the public-private partnership.
- 1996-2000: Area Client Manager/Senior Consultant EMA SERVICES, INC., Pleasant Hill, California
  - Worked on project assignments with the company's national business consulting group, including competitive evaluation and implementation of value-added process improvements for large water and wastewater utilities.
  - Worked with clients in the Western U.S. to drive productivity and competitiveness improvement.
  - Executed over 30 organizational competitiveness assessments.
  - Identified initiatives for change and multi-million dollar improvement opportunities for municipal and governmental clients including, but not limited to: Phoenix, Arizona; Portland, Oregon; Houston, Texas; Anchorage, Alaska; Albuquerque, New Mexico; Sacramento, California; East Bay Municipal Utility District, California; the Eastern Municipal Water District, California; and the Las Vegas Valley Water District, Nevada.
  - Directed program for multi-year reengineering effort for the City of Phoenix, Arizona's Water Services Department. The first year results included 10% operational savings, representing \$3.2 million, with an additional \$6.1 million projected at the end of the 3-year project. Results achieved through full employee participation and support from AFSCME.
- 1993-1996: District Manager/Technical Manager Veolia Water North America Operating Services (predecessor company - WHEELABRATOR EOS INC.) - Pleasant Hill, California
  - Managed district with responsibility for contracts totaling \$10 million annually; directed technical resources for all contract operation and management projects in Western U.S. and Mexico.

# Creative solutions for our environment

Veolia Water North America October, 2010

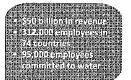








Unique combination of capabilities to cover the entire range of environmental services



**VEOLIA** 

The standard for water services

**VEOLIA** 

The standard for energy services and facility management

VEOLIA ENVIRONMENTAL SERVICES

The standard for waste management and resource recovery

VEOLIA
TRANSPORTATION
The standard for managing safe and sustainable mobility solutions



# The Benchmark Standard for Professional Water Services



- Managing water and wastewater services for public authorities and industry
- Designing technological solutions and building and managing the facilities
- Construction, rehabilitation and maintenance of networks and associated infrastructure
- \$200 million R&D annually with 500 researchers focused on technology and operational performance













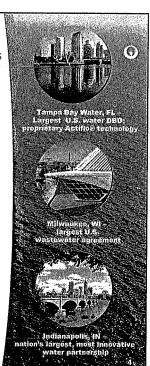


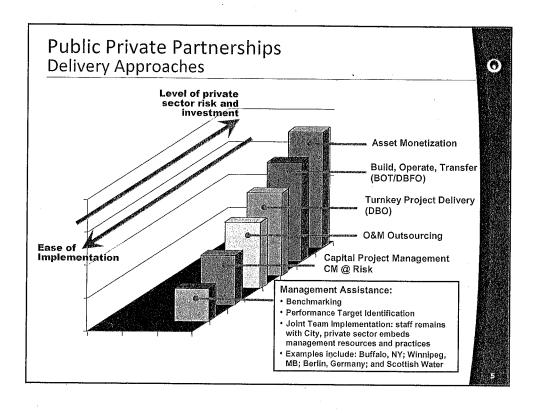
# Veolia Water in North America

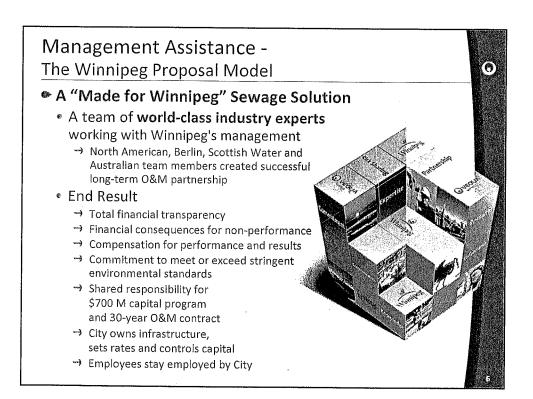
Leader in water services & solutions - \$678 M in Revenues

- No. 1 U.S. Market Leader
  - 650 communities served in 38 states
- Manage Largest U.S. Water and Wastewater Public-private Partnerships
  - Indianapolis, IN Water
  - Milwaukee, WI Wastewater
- Manage largest U.S. DBO Tampa Bay Water, FL
- Total Water Solutions
  - Engineering, design, construction, technology and operations
- Technological and Design Expertise for Municipal and Industrial Sectors

\* 2010 Public Works Financing survey

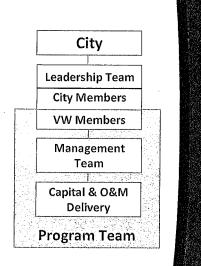






# Integrated Partnership: Our Model

- Leadership Team Composed of City & Veolia Water Executives with Control Resting with the City
- Management Team
   has Integrated Staff from
   Both Entities in Key Roles
- Staff Selected from Both Entities on a "Best for Program" Basis
- Existing Staff Remain with City



0

# Management Assistance - The Berlin Model

- ► Largest P3 In World \$1.75 B
  - → 30-year partnership (1999-2029)
  - → First water partnership in Germany
  - → Serves 4 million people
  - → 3,970 employees
- Partnership Model
  - → Berliner Wasser Betriebe (BWB) remains public water utility
  - → Operations under a consortium
     Veolia Water and RWE (investor)
- Results
  - → ISO 9001 and 14001 certifications
  - → OHSAS 18001 certification
  - → Established the Berlin a Center of Competence

An independent third party report, commissioned by the customer, concluded that after 10 years, the partnership has achieved the following objectives among others:

- Agreement on limited or no job cuts - Exceeded
- Objectives on training Exceeded
- Water quality standards Exceeded
- Customer satisfaction has shown "Enormous" improvements

Third party report available upon request





# Management Assistance – Hybrid Operations Outsourcing – the Buffalo Model

- 10-year Agreement to Manage the City of Buffalo's Drinking Water System (production, distribution and customer service for a population of 200,000)
- Entire Management Responsibility
   Transferred to Veolia Water
  - Staff remains employed by the City
  - Veolia Water has deployed five managers, including the General Manager
- Veolia Water has Committed to a Not-to-Exceed Cost for the Majority of the Operations Cost
  - Increased risk transfer to Veolia Water
  - Increased private sector responsibility

# Capital Program Management - Example: Tampa Bay Water, Florida

- Regional Water Agency
  - Supplying water to 2.5 M consumers in 3-county area
- Delivered innovative solutions
  - New Greenfield Plant DBO 66-MGD
    - → Delivered \$80 M in savings with DBO solution
  - Expansion CM@ Risk 120-MGD
    - → Resulted in savings using CM@R approach
    - -> Largest current DBO project in U.S. \$158 M
- EPCM Contract
  - New Lithia hydrogen sulfide removal facility 45-MGD ozone treatment system





# Traditional Delivery Models

- Other PPP Models Available to City:
  - Full outsourcing staff to private sector employment
    - → Briefly considered by DEP
  - Design-Build-Operate
    - → One-stop-shop for long term delivery of new capital projects
- These Models can be Combined with Financing:
  - Financing for new capital projects (BOT/DBFO)
    - → Alternative to revenue bond financing
  - Asset monetization
    - → Opportunity to transfer funds from utility budgets to general funds
    - → Model recently used for certain transportation projects
    - → Taxable and tax-exempt solutions

# Sustainable Solutions for our Clients and Our Planet – *Every Day!*

Consider the impact of our operations on
 Oklahoma City's wastewater treatment system.

Reduced use of electricity



35,235 average U.S. homes could have power for one year Reduced use of diesel fuel



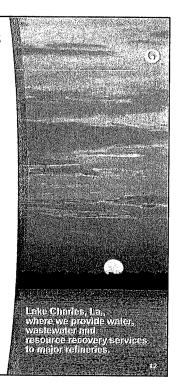
56
road-trips around
the earth

Nature's requirement to offset CO2 savings equivalent

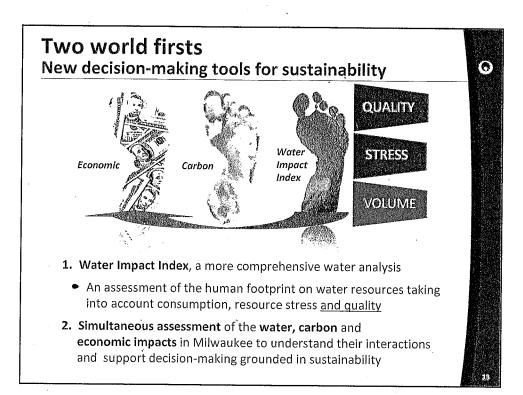


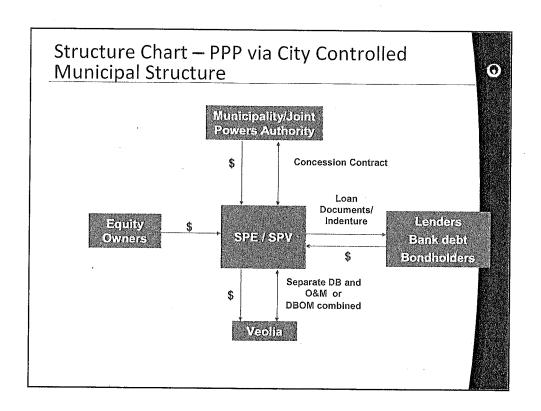
7.2 million

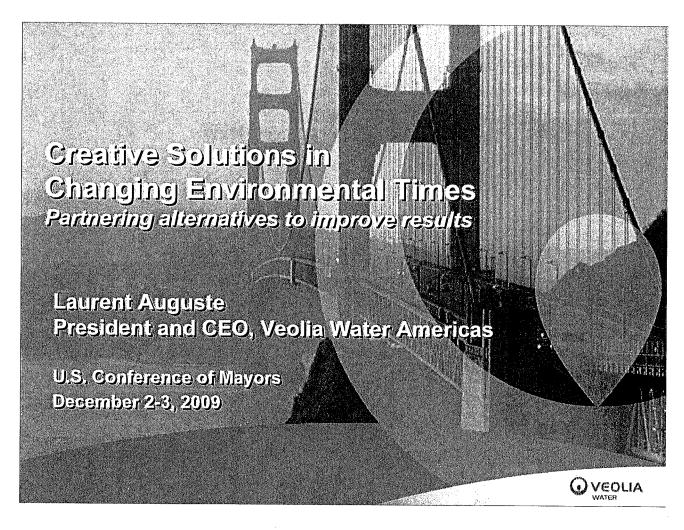
- Our partnership has reduced Oklahoma City's carbon footprint by 704 million tons.
- To absorb this amount of carbon, 7.2 million tree seedlings would have to be grown over 10 years.

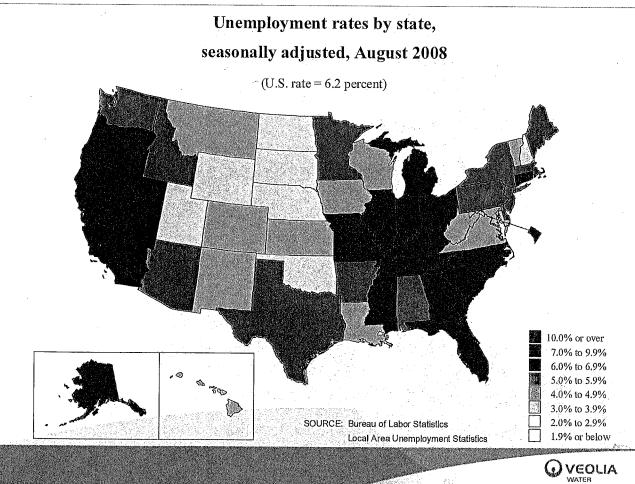


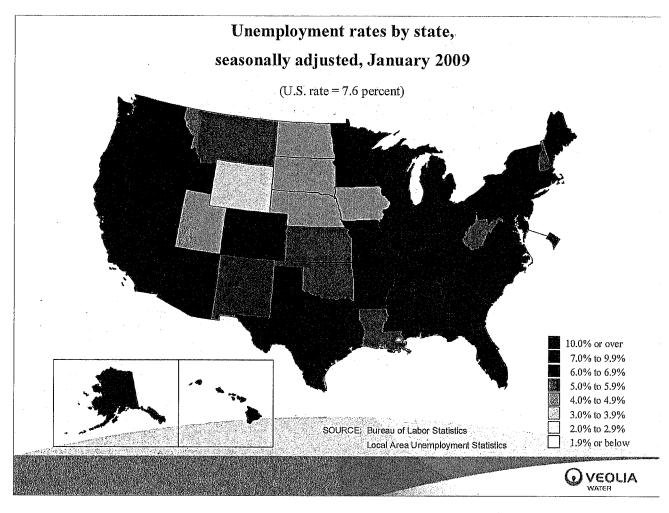
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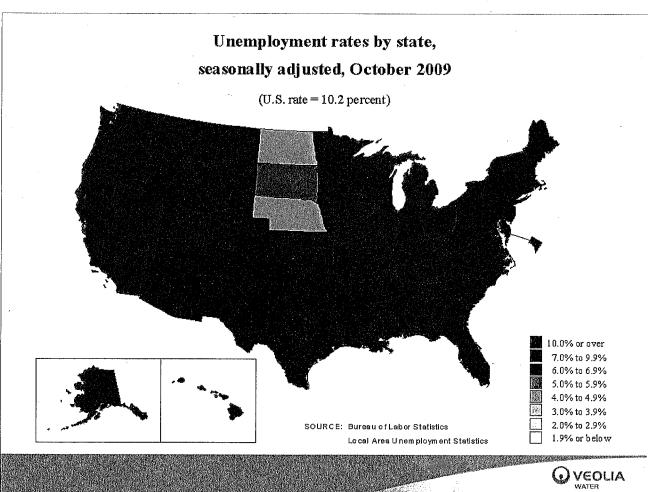




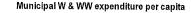




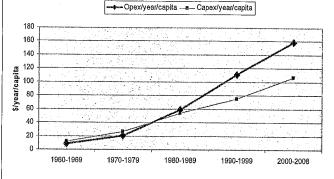


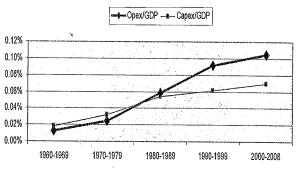


# Increasing expenditures with a switch... ...from Capex to Opex



Municipal W & WW expenditure as % of GDP





- Technological and operational challenges from more stringent regulations
- Operating cost increases (chemical, power)
- · Aging infrastructure, funding shortfalls in hundreds of billions
- Knowledge management with baby-boomers departure
- Climate change (exceptional rain events, carbon footprint and tomorrow water footprint...)



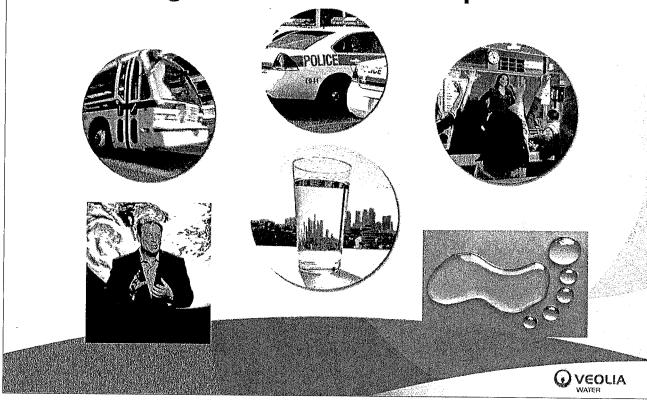
# LA 2009!?!



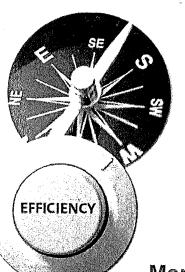
- Asset management: a basic and essential requirement...
- · Keep on postponing, acting is expensive!
- Crisis management, Opex but also Capex (oversized facilities)



# Competing interests... ...tough choices for municipal leaders



# A time of exceptional challenges and choices for municipal leaders

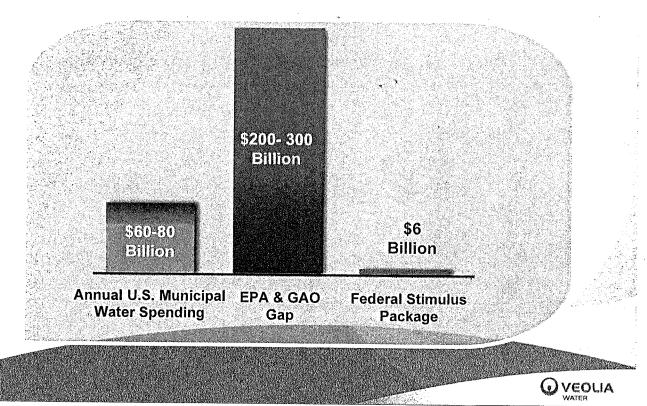


# The status quo is under siege

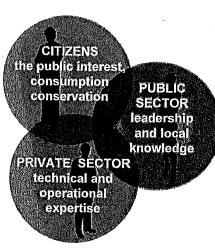
- · Cut costs?
- Raise rates?
- Reduce services?
- Furloughs and layoffs?
- Recast the federal government as the ultimate services provider or solution?
- Do more with less?
- · Think out of the box, consider change?

More funding is not the sustainable answer. Time for creative solutions and efficiency.

# Washington will not come to the rescue with "free money"



# Hurdles and solutions...



It's not a time for ideology but a time for best practices

Local challenges, local solutions required; each city on its own

# PPP, HURDLES

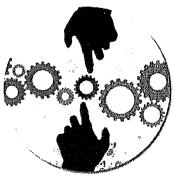
- Never done it? How to make it work?
- Resistance, fear: Ideology, Unions, loss of control

# PRIVATE SECTOR

- A full stakeholder with complementary capabilities
- · An entry point to a network of expertise

Involve all stakeholders, can we afford not to?

# What do you get from the private-sector?



Creative solutions with control

- Access to efficiency and expertise while lowering your costs – yes, it's possible!
- Resulting in measureable performance
  - Customer satisfaction
  - Safety
  - Quality, compliance, sustainability
  - Cost-effectiveness
- Fully maintaining public control on key prerogatives
- Recognizing water as a local issue
- Drawing strengths from people from both sectors for the public's benefit



# What do you get from the private-sector?

Veolia Water - professional services operator



\$17.5B company with PROFESSIONAL OPERATORS supported by a global network

- > Engineering
- > Technology
- > Best practices
- > Annual R&D of \$175M
- > Financial strength

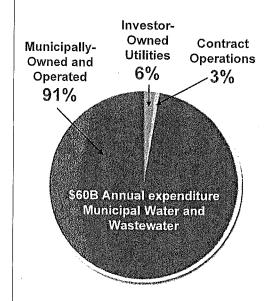
- 93,000 water professionals
  - Trained in environmental services, operations and technology
  - · Supported by a global network
- · Challenged by competition
- Commitment to long-term solutions that deliver solid results
  - Safety, quality and compliance
  - Cost-effective
  - Sustainability
- Drinking water services to 80 million people, wastewater services for 58 million people
  - 650 North American communities

Since 1853...



# The good news!!

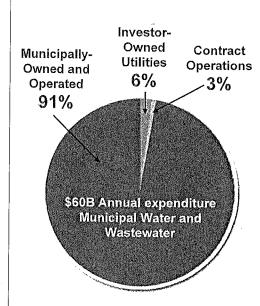
Still largely untapped potential...





# The good news!!

Still largely untapped potential...



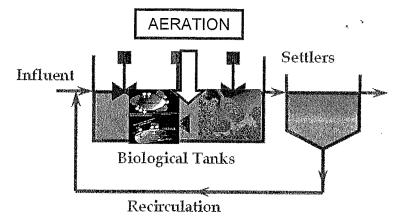
# Customized solutions available...

- From operations staff supply to more sophisticated and value-added services: power, chemical, asset management treatment plants and underground assets
- Alternative procurement for capital projects (DB, DBO, Alliance): the water sector significantly behind compared to other infrastructure and federal projects
- Concessions and various solution enabling monetization of future savings
- Joint ventures



# Veolia Water – Sample: Cranston From staff supply to technical added value

**Cranston: Cost-saving Aeration Control** 



 Sophisticated operation to provide the right amount of process air at the right moment

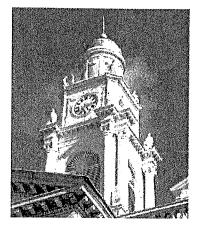
- · Air flow reduction by 20%
- · Saving: \$ 150K/Year



# From staff supply to technical added value Underground asset management...



# Veolia Water – Schenectady, New York Wastewater, composting... and community partners

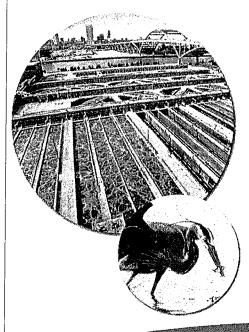




- Managing an 18.5 MGD biological contactor wastewater treatment facility
- Managing 15 dry-tons-per-day in-vessel compost facility and compost marketing
- Value-added benefits!
  - Savings of \$1.5 million
  - Securing community recognition for good neighbor activities (a model Neighborhood Advisory Committee) regarding odor control and beautification program
  - Numerous facility upgrades and improvements, particularly for odor management

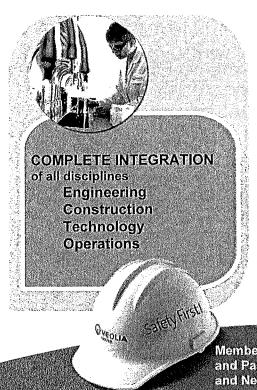


# Veolia Water – Sample: Milwaukee Dynamic, complementary partners



- Serving 1.1 million in 28 municipalities in a highly environmentally sensitive area
- Complex wastewater collection system, deep tunnel, wastewater treatment facilities and biosolids management
- Delivering environmental compliance in an historic peak wet season
- Delivering stable costs minimum \$35M in savings atop previous savings

# Veolia Water – Sample: Tampa Bay Advanced procurement mode

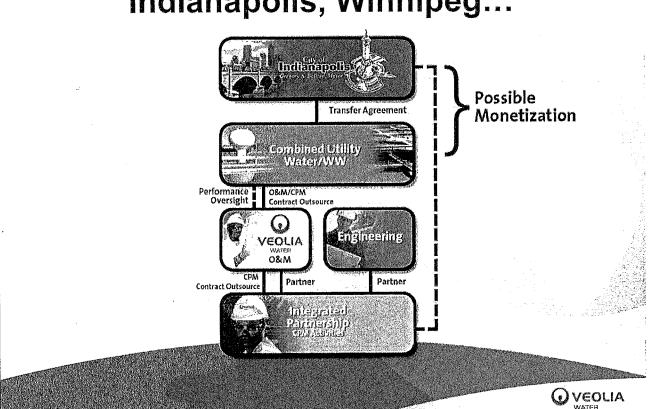


- Difficult-to-treat variable water quality addressed with ACTIFLO® technology
- DBO solution delivers 66-MGD facility and helps save \$80 million; unanimous approval by TBW board to expand to 120-MGD
- Proven technology, established and proven working relationship and intimate knowledge of operation
- Keller degasification plant (33-MGD)
- Reservoir management (15-BGD)
- Project risk management

Member governments Hillsborough, Pinellas, and Pasco Counties, St. Petersburg, Tampa, and New Port Ritchey



Looking for advanced alternative partnerships Indianapolis, Winnipeg...

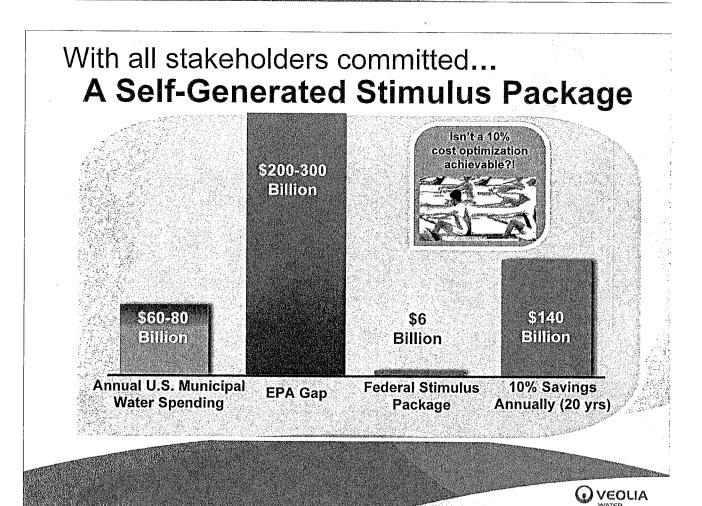


# With all stakeholders committed... A Self-Generated Stimulus Package \$200-300 Billion \$6 Billion Annual U.S. Municipal EPA & GAO Federal Stimulus

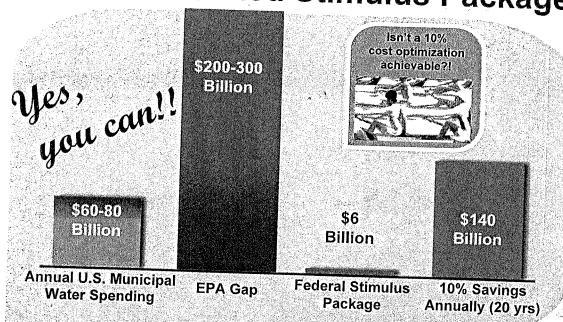
Package •

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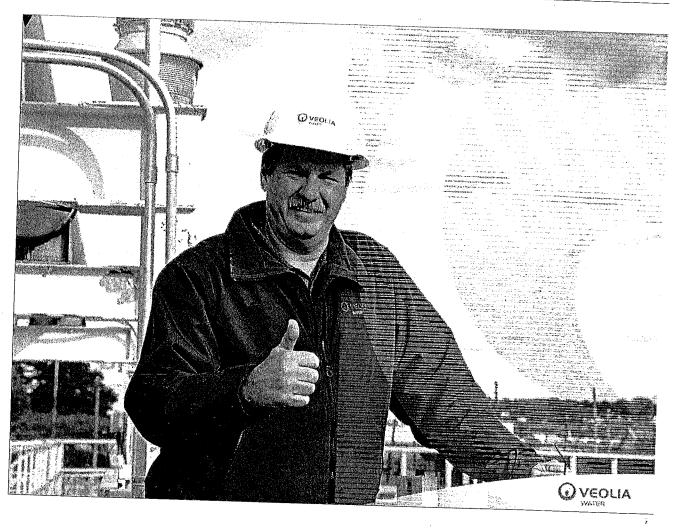
Water Spending Gap

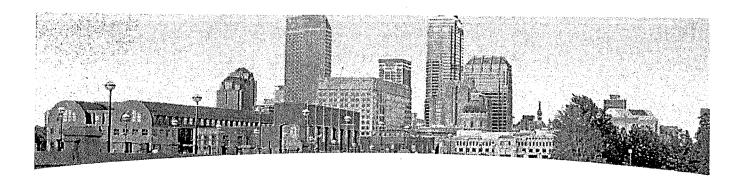


# With all stakeholders committed... A Self-Generated Stimulus Package









# City of Indianapolis, Indiana

Largest Water Public-Private Partnership in the United States

O&M and Customer Service for the Nation's 13th Largest City

# Challenge

Our challenge was to provide an aggressive approach to resolving water taste and odor problems, which had plagued the waterworks system for years, provide compliant water system operation and management, and make a major commitment to invest in plant upgrades.

Veolia Water was selected for this partnership because of our innovative transition plans, employee relations plans, technical approach, experience, management fees, customer service and local commitment.

This move by the nation's 12th-largest city (at contract inception) marked the largest public-private partnership for water services in the U.S., and Veolia Water transitioned over 460 technical, professional and management level employees to our O&M and management teams.

# Veolia Water's Solution

On April 30, 2002, the City acquired the waterworks system from NiSource, and until the City's purchase of Indianapolis Water Company, Indianapolis had been the largest city in the nation that did not own its own water utility. On May 1, 2002, the City transitioned complete responsibility for the water system O&M to our firm.

Due to the acquisition and Veolia Water partnership, water rates for the City of Indianapolis consumers were frozen for the first five years. The City further contributed to lower operating costs because of favorable tax and interest rate structures.

Under the incentive plan, a portion of our company's fees are paid only if we meet specified customer service, water quality, operations and other performance measures. By directly linking performance to compensation, this partnership established a new model in the water outsourcing industry. Over the years, Veolia Water has earned better than 90 percent of the incentive-based compensation.

Veolia Water established a sophisticated customer service program that includes a call center to manage customer concerns regarding their water service.



# **Key Figures:**

**No. of people served:**Nearly one million people in seven counties in central Indiana.

# Scope of Services:

- Design/Build Capital Improvements
- Operate/Maintain/Manage
- Asset Management
- Water Leakage Detection Program
- Customer Service
- Meter Reading (310,000 connections)
- Billing/Collection (600,000 accounts)
- Community Relations
- Site Security Assessment



# Indianapolis, Indiana - Page 2

A major portion of this contract with the City is devoted to capital improvement projects that are managed by Veolia Water Indianapolis. We implement this work through a combination of in-house crews and local, pre-qualified engineering and contractor firms.

Water taste and odor problems had plagued some Indianapolis consumers for years. The City and Veolia Water invested in plant upgrades and engaged Indiana University-Purdue University at Indianapolis in an aggressive research and development project to create a mode of excellence in drinking water quality and also address water taste and odor.

# Results

- Since the inception of our contract in 2002, we have executed in excess of \$200 million in capital work to improve the City's aging water infrastructure. The City anticipates commissioning an additional \$20-\$40 million in capital projects in each of the 20 years of our partnership.
- Currently underway are a \$31 million upgrade to a 24-MGD surface water treatment plant to meet upcoming regulatory requirements and a \$25 million capital program to develop a new groundwater source of supply.
- Veolia Water initiated a new standard for water utility excellence at Indianapolis, with our specialists completing the rigorous program required to achieve ISO 9001 and 14001 certifications — making Indianapolis the only major city in the United States that has achieved ISO 9001 and 14001 certifications for its water operations, and Veolia Water Indianapolis the first U.S. water company to be simultaneously certified in both.
- According to an independent survey, more than 90% of customers are satisfied or very satisfied with Veolia Water's services - well above the national average for water utilities.
- Veolia Water invested \$6 million in a new residuals handling facility to eliminate all water treatment plant disposal to the Indianapolis sewer system. In addition, an investment of \$500,000 in SCADA/technology improvements enhanced chemical and power management through better data collection, increased online monitoring and improved tend analysis.
- Veolia Water's subcontracting approach for this project involves a significant enhancement of the roles played by minorityowned (MBE) and woman-owned (WBE) businesses with respect to the delivery of subcontracted goods and services. Significantly, Veolia Water exceeded our firm's commitments with respect to MBE and WBE participation.

# Scope of Services

The Indianapolis water facilities include four surface water treatment plants, ranging in size from 16 to 96 MGD; four groundwater treatment plants, ranging in size from 2 to 24 MGD; 4,300-mile distribution system; numerous storage tanks; 17 water pump stations along the distribution system; and 12 high-service pump stations at the water treatment plants. The Indianapolis water supply system is dynamic with several pressure zones. Fifteen districts and five subdistricts comprise the water system. A district and sub-district are part of the waterworks that is defined by the pressures within the area and is typically isolated from the remainder of the system by one or more pressure reducing valves (PRVs), bleeder valves or pump stations.

The customer service organization is responsible for meter reading for some 310,000 connections for the City of Indianapolis and an additional 15,000 connections through contracts with surrounding communities. We also provide billing and revenue collection for 600,000 accounts. In addition to billing for the waterworks, we provide sewer billing for Indianapolis, and we also supply utility billing for a nearby city. A staff of 15 is responsible for meter reading and leak detection services for the water system. We use Fluid Conservation System's C2000, TriCoor 2001 and AccuCorr 3000® systems to accurately pinpoint leaks as part of our customer-focused operations.

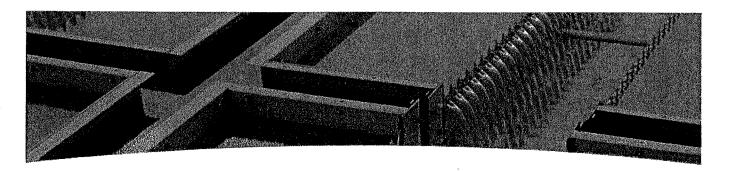
# **Facilities**

- Four Surface Water Treatment Plants, ranging in size from 16 to 96 MGD
- Four Groundwater Treatment Plants, ranging in size from 2 to 24 MGD
- 4,300-mile Distribution System
- 29 Pump Stations
- 7 Well Fields
- 25 Finished Water Storage Tanks (77.85 MG)

# **Start Date**

May 2002





# International Boundary Water Commission, San Ysidro, CA

Contract O&M of an International Wastewater Treatment Plant Long-Running Partnership Ensures Water Quality, Cost Savings, Efficiencies, Infrastructure Integrity

# Challenge

Provide startup services for new treatment plant and long-term operation, maintenance and management (O&M) of the South Bay International Wastewater Treatment Plant (SBIWTP).

Ensure the safe and cost-effective operation of this unique treatment plant, which addresses major sources of groundwater contamination in Southern California.

# Veolia Water's Solution

Veolia Water North America – West, LLC (Veolia Water) works as a partner with the U.S. International Boundary and Water Commission (IBWC), the agency charged with water rights management on the U.S./Mexico border, to provide a treatment system that addresses a critical waste management need for Mexico, while at the same time protecting U.S. waterways and beaches from uncontrolled wastewater discharges.

Very early in this contract, Veolia Water identified the need to have bilingual staff in all of the key O&M positions to be able to communicate effectively with Mexican government officials, operators, truck drivers and others. To that end, we actively searched for O&M and administrative staff with language skills in Spanish (speaking and reading).

Currently, many of the Veolia Water O&M team at the SBIWTP are able to speak and understand Spanish, and some are able to speak, read and write Spanish. This allows our on-site O&M team to effectively respond to all routine and emergency needs. Veolia Water also has outfitted many of the Mexican drivers with hard hats and other safety equipment.

# **Scope of Services**

- Operate, Maintain, Manage
- Industrial Leachate Management
- Industrial Pretreatment Program

### **Facilities**

- 25-MGD Advanced Primary WWTP
- 5 Interceptor-Collection Systems
- 2 Pump Stations

# **Start Date**

• 1996

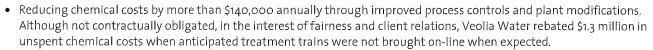


# IBWC, California-Page 2

# Results

Veolia Water is the only contract O&M services provider that has operated these facilities, and our contract was renewed in 2000 for a second term. Some of the direct benefits that Veolia Water. has provided to the U.S. IBWC under this O&M contract have included:

- Accurate and timely reporting to the IBWC and all regulatory agencies (Federal, State of California, Regional, etc.).
- Development of cost-effective solutions to engineering and operational problems that saved the client \$100,000 in process modifications and repairs. This included toxicity reduction studies using the resources of Veolia Water's engineers and testing
  - facilities. As a part of this work, and at our own expense, Veolia Water implemented a primary effluent filtration pilot program, using Veolia Water testing equipment that was mobilized to the site.



• Reduced laboratory costs through subcontracting some of the required analyses and by changing the frequency and grouping of the constituents.

Since 1996, Veolia Water has managed IBWC's capital budget of \$2.215 million, with responsibility for projects ranging size from \$3,000 to \$148,000. In total, Veolia Water has performed 80 improvement projects at this facility, including the repair and maintenance of existing equipment, replacing primary sludge pumps, belt filter press pumps, SCADA upgrades, pug mill screw upgrades, new VFDs for non-potable pumps and new security system. About half of the work completed was performed by Veolia Water, and the other half was performed by other contractors procured by the IBWC, with Veolia Water supervising and managing the work.



All site improvement projects originate from Veolia Water, as we do all the research, engineering and purchasing of equipment. We also submit a five-year capital plan to the client annually.

# Scope of Services

The SBIWTP is an advanced primary treatment facility, with a design flow of 25-MGD, a peak flow of 75-MGD and a hydraulic peak flow of 100-MGD. The treatment scheme at this plant features influent screening and grit removal, chemically-assisted primary sedimentation, sludge dewatering and lime stabilized sludge and odor reduction.

Other elements of this wastewater management system include:

- Various canyons, drains and gulches, which capture dry weather flows that drain into the U.S. from the unsewered areas of Tijuana. This untreated wastewater is conveyed to the plant using interceptor-canyon collection systems in each drainage area. To prevent the polluted water from the Tijuana River from entering into the U.S., approximately 13 MGD of this river flow is sent to the facility for treatment.
- An effluent distribution structure.
- The South Bay Land Outfall a 12,300-foot long, 144-inch reinforced concrete pipeline.
- An effluent conveyance tunnel which connects the South Bay Land Outfall to the ocean outfall. This tunnel includes a drop shaft, tunnel, riser pipe, and a small section of sea floor pipe.
- An ocean outfall which is used to convey treated wastewater effluent to the Pacific Ocean.







# Palm Springs, California

# Contract O&M of Municipal Wastewater System

Extensive Capital Improvements Program Implemented Using a DBO Approach

# Challenge

The City of Palm Springs was seeking to form a public-private partnership with an operations, maintenance and management (O&M) services provider in order to ensure compliance with California's increasingly stringent and unforgiving environmental regulations, transfer risk to the private sector, gain necessary improvements to the wastewater treatment plant, and get expert assistance in the development and implementation of an Industrial Pretreatment Program (IPP).

# Veolia Water's Solution

The City of Palm Springs and Veolia Water North America – West, LLC (Veolia Water) joined forces in 1999 to ensure that high-quality wastewater treatment services continued to be provided to meet the needs of this resort community.

Our firm came on board to operate, manage and maintain the wastewater plant and collection system, with guarantees to meet or exceed environmental regulations and to assist with capital improvements to the facilities.

Under this O&M partnership, Veolia Water completed a \$3 million plant rehabilitation design/build project, which involved the replacement of the barscreen and grit classifier and three primary clarifier chains, flights and drives, installation of covers on the primary clarifiers, and installation of a new secondary effluent recirculation line and a new belt filter press.

# Scope of Services

Under this long-term agreement with the City, Veolia Water provides O&M for facilities and operations that include a 10.9-MGD trickling filter wastewater plant, 265-mile collection system, pump stations, a land application program for biosolids and high-quality effluent delivered for reuse.

We also assistance the City in the development of an Sanitary Sewer Management Plan, a Stormwater Pollution Prevention Program, a Fats, Oil & Grease (FOG) control program, and we a prepared a groundwater model to determine the impact of nitrates on groundwater quality.

# Scope of Services

- Operate/Maintain/Manage
- Capital Improvements
- · Septage Receiving
- Catch Basin Cleaning
- Industrial Pretreatment Program
- Land Application of Class A and EQ Biosolids – 842 dry tons per year (dtpy)

### **Facilities**

- 10.9-MGD Trickling Filter WWTP
- 5 Pump Stations
- Collection System (265 miles)

# **Start Date**

• 1999

# **Population Served**

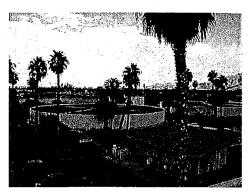
• 45,000



# Palm Springs, California - Page 2

Veolia Water has also maintained a perfect permit compliance record at the City's wastewater facilities and delivered \$1 million a year in O&M savings. We also, most recently, brought national recognition to Palm Springs in the form of the Outstanding Achievement Award from the National Conference of Mayors for a methane recovery program that converts a wastewater treatment byproduct to electricity, reducing plant power costs by nearly \$80,000 per year.

In response to California's electric energy crisis and soaring power costs, Veolia Water also prepared an Energy Management Study for the City's 10.9-MGD trickling filter wastewater treatment plant. This included a comprehensive review of bioenergy options for productive use of anaerobic digester gas to cogenerate electrical power and thermal energy for the existing wastewater treatment plant using various technological options (internal combustion



engines, microturbines and fuel cells), design of a digester gas treatment system, and evaluation of solar/ photovoltaic power as a renewable energy source for the plant.

Following on this study, Veolia Water worked with the City to acquire two microturbine generators through a grant program from the Southern California Air Quality Management District and funded their installation at the wastewater treatment plant. The microturbines efficiently generate electricity on site from natural gas, reducing demand from the local power grid. We have plans to further reduce outside power demand at the plant by converting the microturbines to be powered by methane gas – a free source of fuel created by the natural biological processes used in treating wastewater,

In addition to treatment plant operations, Veolia Water land applies 842 dry tons per year (dtpy) of Class A/EQ biosolids as a soil amendment to nourish a date crop. Our high-quality effluent is claimed by another agency for irrigation or is applied to percolation ponds where it trickles down to recharge the groundwater table. The O&M contract also includes responsibility for more than 275 miles of collection system lines and five lift stations.

Additionally, Veolia Water assisted the City in the development of an industrial pretreatment ordinance and program (IPP), studied water reuse options and modeling groundwater to determine the impact of nitrates on groundwater quality.

In addition to the National Conference of Mayors' honor, mentioned previously, the Desert Business Association recognized the Palm Springs project with its Business of the Year award for 2005.





# Richmond, California

# O&M of Municipal Wastewater Treatment Plant and Sanitary and Stormwater Collection Systems

# Design/Build/Operate Delivery of Odor and Compliance Solutions

The City of Richmond entered into a long-term public-private partnership with Veolia West Operating Services, Inc. (Veolia Water), to curb excursions at its wastewater treatment plant, address long-time odor problems and rein in the ever-increasing costs to operate and maintain (O&M) the aging and neglected facility. Not only has this partnership stemmed the flow of violations, successfully controlled odors and provided massive cost savings to the City, it freed up capital to proceed with much-needed collection system improvements.

# Results

- DBO implementation of \$7 million in capital upgrades to the wastewater treatment plant on budget and ahead of schedule
- Dramatic improvements in regulatory compliance, successful odor control at the facility
- Wastewater plant upgrade program so successful, the City added collection system improvements and O&M to our scope after just two years of O&M
- Provided oversight for more than \$30 million capital investment in collection system, resulting in a huge reduction in sewer spills and backups, known as sanitary sewer overflows or SSOs

# Veolia Water's Approach

For many years, Richmond, located on San Francisco Bay, suffered chronic violations at its 16-MGD wastewater treatment facility. Long-deferred maintenance had resulted in poor operations and fines for noncompliance. Odor problems caused public outcry, and the costs to operate and maintain the facility had skyrocketed. When Richmond selected Veolia Water as its long-term partner in 2001, it had high hopes that its wastewater woes would be put to rest.

The 20-year agreement to operate and maintain the City's treatment facility and manage capital improvements to it, began in 2002. This partnership provides the City with improved operations, regularly scheduled maintenance and guaranteed environmental compliance — at a savings to the City estimated at \$75 million over the life of the agreement — all while leaving the facility ownership and rate-setting authority in the hands of the City of Richmond.

# **Scope of Services**

- Operate/Maintain/Manage
- Design/Build Capital Improvements Program
- Sludge Treatment

# **Facilities**

- 16-MGD Wastewater Treatment Plant
- Sanitary Sewer Collection System (185 miles)
- Stormwater Drainage System (94 miles)
- 15 Wastewater Lift Stations
- 7 Stormwater Lift Stations

# Start Date

• 2002

# **Population Served**

• 102,160

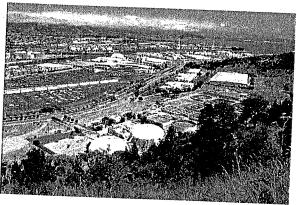
"When the City entered into a contract with Veolia Water to operate our wastewater treatment plant, many were skeptical that they would perform to the level they promised. I'm pleased to say that they have performed so well that the City Council had the confidence to award them a contract to operate the collection system, Under this contract, Veolia Water will work with Richmond to start us down the road toward an improved collection system, just like they did with the treatment plant."

- Mayor Irma Anderson



# Richmond, California - Page 2

# Scope of Work



Richmond's original partnership agreement with Veolia Water transferred responsibility for the O&M of the City's 16-MGD secondary activated sludge wastewater treatment plant. It also gave Veolia Water the oversight and management for design/build (DB) implementation of some \$7 million in capital improvements to the wastewater treatment plant. This work focused on updating, modernizing and automating the existing processes and systems at the facility. Completed ahead of schedule, the D/B work included improvements to the headworks, anaerobic sludge digesters, primary clarifiers and the addition of a concrete chemical containment facility to enhance worker safety and protect the environment. Plant SCADA was updated and expanded, and redundant equipment was added at critical processes.

We also manage 280 miles of collection system and stormwater pipe and 22 lift stations. Included in the collection system

In less than two years, Veolia Water had achieved its primary goals of increasing the efficiency and effectiveness of plant operations which sharply reduced water quality violations and odors. The success of the wastewater facility upgrade program led to a similar scope expansion for the 280-mile collection and stormwater systems — adding \$17 million in capital to Veolia Water's O&M project scope. In addition to routine O&M of the collection systems, the amendment includes implementation of Underground Asset Management, short- and long-term capital program development, planning and construction management. Currently, the system suffers from significant inflow and infiltration (I/I) problems that contribute to overloading of the treatment plant, particularly during winter storms. As part of our service, we inspect and clean sanitary sewer and storm sewer main lines and manholes, repair and maintain lift stations and provide 24-hour emergency response and related customer service. The benefits that the City of Richmond realizes from this expanded partnership include a dramatic increase in regulatory compliance, the reduction of sanitary sewer overflows (SSO), and long-term price stability.

# **Underground Asset Management**

Richmond's vital underground assets – nearly 280 miles of pipe that deliver wastewater to the treatment facility and divert stormwater to prevent flooding - were seriously deteriorated.

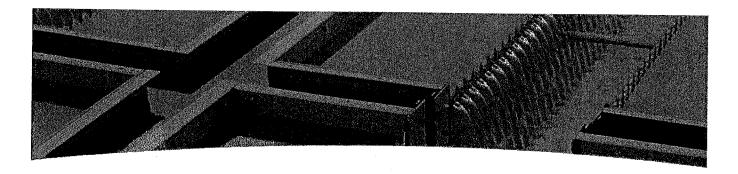
Water developed and implemented a comprehensive master plan for the system that incorporates the use of GIS (global information system), state-of-the art CMMS (computerized maintenance management system) and a condition/capacity assessment that ranks asset criticality through the use of CCTV inspections.

Veolia Water has the lead role in implementing the State of California's SSMP (Sanitary Sewer Management Plan).

Veolia Water employs state-ofthe-art robotic cameras for CCTV of underground pipe. The camera generates full-color, 3D images of the system and can produce a variety of reports.

Our efforts in this regard have been crucial in bringing the City into compliance with the State's requirements under the SSMP to reduce and mitigate SSOs. No system for tracking or reporting SSOs existed under City management. Veolia Water established protocols for both, and, since 2004, has reduced SSO occurrences by more than 84 percent.





# Honolulu, Hawaii

# Design-Build-Operate for Municipal Wastewater Reclamation Plant State-of-the-Art System Extends Precious Freshwater Supplies

# Challenge

Need for facility to treat wastewater effluent to reuse levels with no up-front cost.

# Veolia Water's Solution

In 1998, the City and County of Honolulu and Veolia Water North America – West, LLC (Veolia Water) entered into a \$140 million, 20-year agreement for the company to design/build/operate (DBO) and own (and transfer) the Honouliuli Water Reclamation Facility (HWRF).

In 2000, prior to facility startup, the Honolulu Board of Water Supply purchased the facility from Veolia Water, and, following the transfer, our firm continues as the O&M services provider.

The facility is designed to treat 13-MGD of secondary effluent from the City and County's Honouliuli plant to produce some 12-MGD of reclaimed water for beneficial reuse.

The facility is the largest reclamation plant of its type in the Hawaiian Islands, and employs state-of-the-art technology to treat secondary effluent previously discharged into the Pacific Ocean. The processes generate two qualities of water: high-purity reverse osmosis (RO) water, which is sold to the industrial users for power and petrol-refining uses at nearby Campbell Industrial Park.; and R1 water which, is used for irrigation. The industrial processes use 2-MGD of RO Water, freeing about 3.6-MGD of valuable potable water for potential residential/domestic uses.

Tesoro Hawaii and Chevron Products Company purchase water to use in their manufacturing processes. Because this facility sells its treated water product to the reclaimed water customers, it has no NPDES permit. Backwash water is returned to the Honouliuli Wastewater Treatment Plant influent. A new 15-mile network distributes the reclaimed product to users.

The Honolulu project has been recognized by the WateReuse Association through its 2003 award for Outstanding Contribution to Sustainable Water Use, and also by the U.S. Conference of Mayors, which honored the project with its 2002 Outstanding Achievement Award.

# **Scope of Services**

- Design/Build
- Operations, Maintenance and Management (O&M)
- Ownership (and Transfer)
- Project Financing
- Effluent Reuse (12 MGD)

### **Facilities**

- 13-MGD Wastewater Reclamation Plant
- Collection System
- Reclaimed Water Distribution System

# **Project Dates**

- Construction Completed 5/00
- Project Startup 8/00
- Contract O&M Ongoing

"This agreement is important in a number of ways. The partnership eliminates the need for our community to spend millions of dollars to build treatment facilities necessary to meet a federal consent decree. Secondly, it enables us to preserve limited potable water resources through the stringent treatment and reuse of wastewater. We view it as a win for rate payers, the City, the environment and a number of businesses that will have a guaranteed supply of quality water."

- Jeremy Harris, Honolulu Mayor



# Honolulu, Hawaii- Page 2

# Results

- 20-year design-build-operate (DBO) project
- 13-MGD advanced wastewater treatment plant with reclamation/reuse
- Projected \$35 million in cost savings over the contract term
- Veolia Water assumes full risk and responsibility

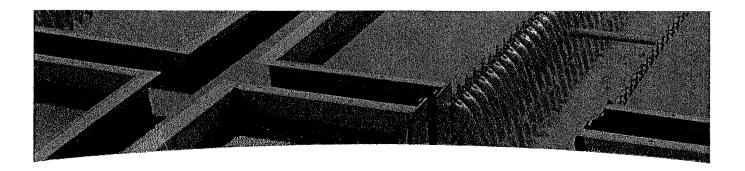
# Scope of Services

The facility is designed to treat 13-MGD of secondary effluent from the Honouliuli wastewater treatment plant to produce up to 12-MGD of reclaimed water for beneficial reuse. Structures constructed at the advanced water reclamation facility include: the microfiltration/RO building, R1 product delivery pump station, reuse influent pump station, hydroclear seven-bay sand filtration, the UV channel, R1 transfer pump station, three reservoir tanks, operations building and laboratory, yard and distribution piping.

Veolia Water Solutions and Technologies (the engineering and construction affiliate of Veolia Water) led the design/build development of the HWRF, and a local design engineer provided local site-specific engineering services. Physical construction was performed by local construction contractors that were directly hired and managed by the VWS construction management staff.







# Vancouver, Washington

# Long-Term Wastewater O&M Partnership

One of the longest-running municipal partnerships in U.S.

# Challenge

Restore compliance and relieve City from threat of fines and sewer connection ban

# Veolia Water's Solution

When Veolia Water North America – West, LLC (Veolia Water) began operating the City's wastewater facilities in July 1978, solids loadings were increasing substantially, resulting in the plant consistently failing to meet discharge standards since a 1975 startup. The City faced fines and a sewer connection ban by the state regulatory agency. The then 12-MGD Westside activated sludge facility had been coping with heavy industrial loads, internal solids build-up and frequent equipment breakdown. Under Veolia Water supervision, effluent compliance was achieved at this plant within six months.

Our computerized process control system monitored and analyzed process data, helping our technical staff understand process dynamics and develop a strategy for achieving effluent quality. We also increased Westside facility capacity by 25 percent at no additional cost. Later, we provided a process analysis that resulted in a 25 percent capacity increase with zero capital cost. Today, the plant capacity is nearly double from when we arrived, capable of treating average daily flows of 22.4 MGD. The plant disposes of 6,850 dry tons of sludge per year by using a 58-dry-ton-per-day (dtpd) fluidized bed incinerator; ash is landfilled.

Subsequently, the City commissioned an industrial pretreatment lagoon and turned its operation over to Veolia Water. The facility was recently expanded from 3.2 MGD to 4.1 MGD. Three large food industries provide facility loadings high in grease and BOD. Effluent is discharged to the Westside treatment facility.

A year later, Veolia Water brought online the Marine Park secondary wastewater treatment plant, which has operated in compliance since day one.

### Results

- Veolia Water has operated 29 years without a permit violation.
- We achieved permit compliance within six months of project startup, initiated an industrial pretreatment program and eliminated odor problems.

### Awards:

- 2000 Public-Private Partnership Award, National Council for Public-Private Partnerships
- Outstanding Wastewater Treatment Plant Award, Washington DOE – 11 times (Westside and Marine Park)
- Best overall Safety Program Award Winner 2007
- Perfect Compliance Award, WDOE four times (Westside and Marine Park)
- Exemplary Performance Award, WDOE twice
- O&M Excellence Award, WDOE
- Multiple George W. Burke Safety Awards, WEA
- Dozens of Safety Awards from WDOE and PNPCA
- "... [Veolia Water] has had a perfect record for water quality compliance... The City and [Veolia Water] have received numerous awards and honors... This exceptional performance was accomplished during the disruptive period of new construction and revision to existing processing facilities while the loading to the plant approached their design limits. The major capital expansion program... was planned with [Veolia Water] making significant contributions to review all design elements. The operability, safety and cost-effectiveness of each operation benefited from the team's practical experience and technical expertise."
- Thomas D. Boyer, P.E. Assistant City Engineer



# Vancouver, Washington - Page 2

- Veolia Water increased Westside facility capacity by 25 percent at no additional cost and returned its pretreatment lagoons to service, significantly reducing biological loadings on the plant.
- Veolia Water developed a pilot program with specific testing criteria that resulted in increasing Westside treatment capacity from 12 to 15.2 MGD.

Veolia Water has an excellent reputation as a good corporate citizen in the Vancouver area, participating in community outreach programs and educational programs. In addition, we support the City's Water Resources Education Center, located at the Marine Park plant, by providing plant and laboratory tours, technical assistance, as well as educational assistance.

# Scope

Veolia Water operates and manages three municipal wastewater treatment plants processing domestic and industrial wastes for the City of Vancouver. Major process components at Westside include multi-stage nitrification with anoxic selectors, ultraviolet (UV) disinfection, centrifuges and a fluidized bed incinerator for sludge disposal. Marine Park uses single-stage nitrification with anoxic selectors and ultraviolet disinfection. All solids are sent via interceptor line to the Westside facility for incineration.

Treated effluent is used inside the fenceline at Westside and Marine Park to irrigate the extensive landscaping as well as provide washdown water and seal water. Both facilities are equipped with backup generators for redundant power feed.

In 2000, Veolia Water upgraded the Vancouver project SCADA system, performing the majority of programming. The system features improved capabilities for tracking electrical costs along with most individual pieces of equipment. We enhanced the

system to provide "unit of consumption" visibility to help optimize chemical and power use. We provide trending as an additional tool for tracking consumables that have seasonal variances. Comsumables have been integrated into the cost of good sold (COGS) program and are discussed in weekly process control meetings.

Veolia Water implemented an enterprise asset management (EAM) system from SPL as our CMMS. SPL is completely SOX compliant. The EAM performs all purchasing management and inventory control. The capability to view the inventory of all five sites allows us to reduce our on-hand stock through crossutilization of materials. The Web-based EAM speeds the multiple approvals of purchase requests required by SOX. An e-mail notifies a signator that an approval is pending, and a single click takes the viewer directly to the appropriate purchase request. SPL has the capability to interface with the new SCADA system and implementation is planned for a future date.

Some key achievements include:

- Veolia Water has operated 29 years without a permit violation.
- We achieved permit compliance within six months of project startup, initiated an industrial pretreatment program and eliminated odor problems.
- Veolia Water increased Westside facility capacity by 25 percent at no additional cost and returned its pretreatment lagoons to service, significantly reducing biological loadings on the plant.
- Veolia Water developed a pilot program with specific testing criteria that resulted in increasing Westside treatment capacity from 12 to 15.2 MGD.

Veolia Water has an excellent reputation as a good corporate citizen in the Vancouver area, participating in community outreach programs and educational programs. In addition, we support the City's Water Resources Education Center, located at the Marine Park plant, by providing plant and laboratory tours, technical assistance, as well as educational assistance.

# **VEOLIA**

# **Scope of Services**

- Operate/Maintain/Manage
- Capital Improvements
- Industrial Pretreatment Program

- Septage Receiving
- Biosolids Disposal 6,850 dtpy
- Effluent Reuse

### **Facilities**

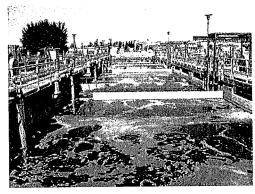
- 22.4-MGD Activated Sludge **WWTP**
- 16-MGD Activated Sludge WWTP
- 4.1-MGD Multi-Stage Aerated Industrial WW Lagoon
- 58-dtpd Fluidized Bed Incinerator
- Industrial Wastewater Collection System (5 miles)
- 8 Pump/Lift Stations

### **Start Date**

• 1978

# **Population Served**

• 200,000





# Gresham, Oregon

# Wastewater Facility O&M

Asset Management Program Implemented to Extend Infrastructure Lifecycle/Reduce Capital Costs

# Challenge

Delivering a strong and comprehensive asset management plan focused on extending wastewater infrastructure life expectancy was key to winning a contract with Oregon's fourth largest city.

# Veolia Water's Solution

In April 2005, the City of Gresham selected Veolia Water North America – West LLC (Veolia Water) to take over operation, maintenance and management (O&M) of the City's 20-MGD wastewater treatment facility. The City selected Veolia Water based on the merits of an exceptionally strong technical proposal rooted in an innovative asset management program. City confidence was additionally strengthened by Veolia Water's track record of success in effectively managing public wastewater facilities.

Immediately upon being selected, Veolia Water moved to fulfill Gresham's wastewater vision by selecting a highly certified, experienced and award-winning project manager to lead overall operations. Veolia Water implemented our acclaimed environmental health, safety and security programs, including development of a customized emergency response plan for the Gresham facility. Additionally Veolia Water's quality management programs — such as our safety programs, Process Control Management Plan and Laboratory Quality Assurance/Quality Control Plan — were quickly established. Finally, our exceptional employee training program became available to staff, offering individuals opportunities for education and certification upgrades along with nationwide advancement.

### Results

- 15% 20% reduction in capital costs anticipated through asset management program
- Highly acclaimed corporate programs established under award-winning project leadership
- 75% anticipated reduction in preventive maintenance by basing service on equipment run time rather than calendar time
- Installed video cameras throughout the gravity belt press area and streaming current detectors to reduce manpower requirements and improve response to chemical feed issues

# **Scope of Services**

- Asset Management
- Operate/Maintain/Manage

### **Facilities**

- 20-MGD Activated Sludge WWTP
- 9 Pump Stations
- Land Application Program -Class B Biosolids
- Co-generation System

# **Start Date**

• 2005

# **Population Served**

• 106,000

"Veolia's proposal not only saves money but moves Gresham forward in having a 'best-in-class' wastewater treatment system."

- Dave Rouse, Environmental Services Director



# Gresham, Oregon - Page 2

- Made numerous lift station improvements that include intrusion alarms, enhanced instrumentation and controls, upgrades of backflow prevention equipment, removal of out-of-service equipment
- Called on our existing relationship with California Power Partners (Calpwr), the company that is performing upgrades to Gresham's cogeneration system. Veolia Water is intimately involved in the design of new facilities, which will ensure maximum interface and performance with the treatment scheme
- · Reduced alarm callouts to plant and pump stations through improved automation systems
- Earned GREAT Business designation from the City for our resource conservation efforts energy usage waste reduction, recycling and stormwater and wastewater practices.
- 2008 winner of the Service Award from the National Council for Public Private Partnerships (NCPPP), along with numerous other honors (mentioned below).

# Scope

In 2005, the City of Gresham elected to contract with Veolia Water over their existing service provider, despite our \$1 million higher proposal. The selection committee's unanimous recommendation was based on our demonstrated experience, bench strength and track-record of elevating other programs to a best-in-class status. The City staff visited our projects, talked with our clients, and interviewed our team prior to ultimately selecting Veolia Water.

This public-private partnership gave Veolia Water responsibility for managing Gresham's wastewater treatment system that serves approximately 106,000 people and receives domestic, commercial and industrial wastewater from the City and neighboring



communities. The wastewater treatment system includes a 20-MGD treatment facility, biosolids management program, cogeneration operation, laboratory services and nine lift stations. Under the partnership, the Gresham community still owns the facilities and maintains responsibility for setting City wastewater rates and fees.

As part of this 7-year, \$21 million contract, Veolia Water is responsible for implementing one of the industry's most comprehensive Asset Management Programs designed to preserve and protect the City's valuable assets, including the 20-MGD wastewater infrastructure that serves over 100,000 people. Under this approach, our firm implemented a powerful enterprise asset management program from SPL®. With expansive asset registry capability, it can track virtually every piece of equipment involved in the treatment process. To date, 115 percent more plant components have been entered into the system than were tracked by the previous program.

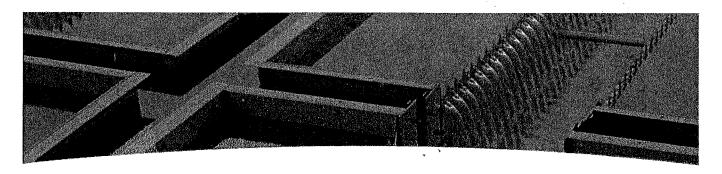
Veolia Water purchased a PC-sized server to interface with SCADA, which assists operators with plant monitoring and process controls. The server houses our operational software and is integrated with the City's network. When completed, SCADA will update daily run times for plant assets. This data will then be imported into the SPL® CMMS and will generate run-time-based preventive maintenance work orders — anticipated to save 75% over calendar-time-based PM.

As part of our 2005 contract with the City of Gresham, Veolia Water developed and implemented a comprehensive biosolids management program that incorporates beneficial land application for disposal of wastewater residuals. Veolia Water designed a land application program that meets the Federal and State criteria for disposal by applying the stabilized sludge to agricultural land as a soil amendment. We took on the risk of securing land application sites, applied for all the required permits and acquired some 200 acres of farm land to receive the Class B soil amendment. During the first year of the agreement, we land applied approximately 2,000 metric tons of high quality biosolids to pasture grass and nursery stock. Since Veolia Water began Gresham's biosolids management, the need for onsite storage has been significantly diminished – mitigating a critical client concern.

Other responsibilities include cogeneration operation, laboratory services, industrial pretreatment program (IPP) analysis and O&M of nine lift stations. In addition to a smooth transition and implementation of new programs, one of the key accomplishments since taking over is the elimination of the long-standing challenge of on-site storage of biosolids during wet weather months.

In addition to the NCPPP award listed above, the excellence of Veolia Water's operation at Gresham has been recognized by the National Association of Clean Water Agencies (formerly AMSA) three consecutive years – 2007, 2006 and 2005 – with a Gold Award for perfect compliance. In 2008, Operator Darren Eki was selected Operator of the Year by the Pacific Northwest Clean Water Association, Lower Columbia Section.





# Milwaukee, Wisconsin

# 10-year O&M Contract

# North America's Largest Wastewater Partnership

Under a competitive procurement, Veolia Water North America – Central, LLC (Veolia Water) was selected for a long-term operations, maintenance and management (O&M) partnership with the Milwaukee Metropolitan Sewerage District (MMSD).

This agency provides wastewater treatment and flood management for more than 1 million people in 28 communities in the Greater Milwaukee area.

Veolia Water's 10-year, \$400 million contract covers operation of the MMSD's wastewater, deep tunnel and biosolids operations.

# Results

- \$35 million in savings over contract term
- Fee-based guarantees for performance and environmental compliance
- Institution of \$1.5 million research and development (R&D) program in partnership with the University of Wisconsin-Milwaukee (UWM)
- Implementation of state-of-the-art asset management approaches; optimization of wet weather operations plans
- Smooth transition of approximately 200 union and non-union employees

# Veolia Water's Approach

Milwaukee had always been a leader in wastewater operations, in fact, the MMSD was producing and marketing high-quality beneficial use biosolids from its treatment process residuals back in 1926. This new contract demanded a commitment to maintaining the quality of the operations and brining new and innovative approaches.

Veolia Water crafted a winning four-pronged Proposal based on:

Asset Management: International asset management principles and the EPA
 10-step process; state-of-the-art computerized maintenance management
 system, Oracle's workgroup asset management software and ICOMMM;
 leading-edge reliability centered maintenance, working with the MMSD to
 develop a common-knowledge base of assets; delivery of capital program
 management to exacting standards.

# **Scope of Services**

- Operate/Maintain/Manage
- Milorganite Production (41,500 dtpy)

### **Facilities**

- 300-MGD Activated Sludge WWTP
- 250-MGD Activated Sludge WWTP
- 320-mile Collection System
- 26.5-mile Deep Tunnel Management System
- 20 Pump Stations

# **Population Served**

• 1.1 million

### **Start Date**

• 2008

"After two years of analysis and a competitive bidding process, I truly believe this is environmentally and financially the best direction for our Region. The new contract includes incentives for Veolia to perform above and beyond state and federal standards."

-- Kevin Shafer, MMSD Executive Director



# Milwaukee, WI - Page 2

- Operational Excellence: New technologies, plans that prioritize quality and reliability over the cost of treatment; industry-leading safety practices; Action Teams to get the job done right; an exceptional program manager with proven leadership abilities.
- **Environmental Stewardship:** Corporate commitment as guardians of the environment; crystal clear communications with MMSD; maximizing treatment and minimizing overflows through a stringent wet weather operations plan; staff training programs to enhance skills and knowledge and advance career opportunities.
- Community Partnership: \$1.5 million research program with UWM Great Lakes Water Institute; Veolia Water's Water Box introduced into area elementary schools to enhance students' environmental awareness; environmental summit and public education; meaningful S/W/MBE programs to strengthen the local small business community.

At the end of the first quarter as the MMSD's contract operator, we were compliant with all contractual and permit conditions. Additionally, the company reported a nearly flawless transition of some 200 union and non-union staff. All existing bargaining unit members and most management staff were offered employment with Veolia Water at comparable wages and benefits, with 95% choosing to join Veolia Water.

Under the leadership of a dedicated capital program manager, Veolia Water and the MMSD work together to develop a long-range capital improvements program. During the first year, Veolia Water prepared a capital plan of recommended projects that had a total value of \$34 million. We actively participate and provide input into client capital projects. During the first year of our contract, some \$800,000 in capital work was implemented or completed.

# Scope

### Jones Island Wastewater Treatment Plant

Located on a peninsula in the Milwaukee harbor, the Jones Island wastewater treatment plant is the oldest operating activated sludge plant in the U.S. Because of its historic leadership in wastewater treatment, the facility has been designated a National Historic Civil Engineering Landmark by the American Society of Civil Engineers and has been placed on the National Register of Historic Places. Wastewater treatment at Jones Island consists of preliminary/primary treatment, secondary treatment, phosphorus removal, disinfection and dechlorination. Solids removed from the primary and secondary clarifiers are ultimately used in the production of Milorganite®, an organic fertilizer.



### South Shore Wastewater Treatment Plant

The South Shore wastewater treatment facility, which has processes similar to Jones Island, treats the majority of the wastewater flow from the southern portion of the MMSD service area, as well as portions of the western and northern of the service area. Most of the conveyance system flows by gravity to the treatment facility. During wet weather events, a portion of the area that normally flows to the Jones Island plant is diverted to South Shore. Solids removed from the primary and secondary clarifiers are ultimately pumped to Jones Island and used in the production of Milorganite®.



# Milorganite Production

The role of operating the time-honored process of Milorganite production at Jones Island is one for which Veolia Water is well-suited. Our extensive experience with managing solids drying operations allowed us to efficiently step into this role and maintain the high standards in place. We are sensitive to odor issues that can be detrimental to public relations, and we are very familiar with the de-dusting procedure and dust control products used at the plant to prepare the product for transportation.



# **Underground Assets**

Milwaukee has more than 350 miles of complex underground conveyance systems for wastewater and stormwater. Through implementation of the most modern methods of underground asset management, such as CMOM (capacity management, operations and maintenance) and ICOMMM, we will improve the integrity, dependability and functionality of the system.



# Milwaukee, WI - Page 3

Veolia Water is implementing state-of-the art programs that verify the operational readiness of critical system components; improve remote monitoring to provide more complete feedback on real-time system performance; and maximize treatment efficiency. We also will achieve constant emergency/overflow response readiness; provide various means for rate payers and other stakeholders to provide feedback on system performance (emergency phone hotline, e-mail contact, etc.); and use opportunities to educate all that are interested about the proper operation of the District's conveyance and collection system.

# **Collection and Conveyance System**

The collection and conveyance system is a complex system consisting of large pipes, tunnels, pump stations and a central control system. There are nearly 350 miles of pipe. Approximately 40 percent of the gravity sewer is larger than 48" diameter. Two major tunnels provide an effective volume of 500 million gallons. The tunnels are 17 to 32 feet in diameter and 175 to 300 feet below the surface. The complex control system enables the console operators to monitor and control flows throughout the system.

The major requirements of the contract are to effectively manage wet weather events and provide a condition assessment using CCTV of all of the gravity sewers during the first five years of the contract.



# **Wet Weather Operations**

Managing flows during wet weather events has been an ongoing challenge for the District. A significant aspect of Veolia Water's plan for Milwaukee is the development of a Wet Weather Operations Plan. When a wet weather event is anticipated, Veolia Water's Wet Weather Operations Team initiates a series of protocols that maximize the capacity of the District's unique inline storage system, thereby reducing flows and loadings to the treatment plants. Veolia Water's approach minimizes surcharging while maximizing treatment capability. Sewer overflows are reduced and environmental compliance is enhanced. Part of this effort includes scheduling additional plant and field resources to effectively handle a wet weather event.

